

Electronic Supplementary Information

Dual Role of Palladium in Enhancing the Photocatalytic Activity of CdS Dispersed on NaY-Zeolite

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S1. Details of the photocatalytic reactor and irradiation chamber

Photocatalytic activity was studied in a tubular quartz reactor of length 13 cm and diameter 2 cm closed with a teflon stopcock. It was also provided with a side tube closed with silicone rubber septum through which gas mixture could be removed for analysis. Samples were irradiated in a circular chamber of internal diameter 44 cm and height 46 cm fixed with eight ordinary day light fluorescent lamps (Wipro, 36 watts each, emissive length of the tube ~37 cm and radius 1.5 cm) vertically and symmetrically on the walls. Spectrum of the lamp consisted of fluorescent emission predominantly in the visible region along with a UV contribution of ~3%. The reactor was placed at the centre of the circular irradiation chamber vertically.

Figure S2. Emission profile of the fluorescent lamp used for photocatalysis

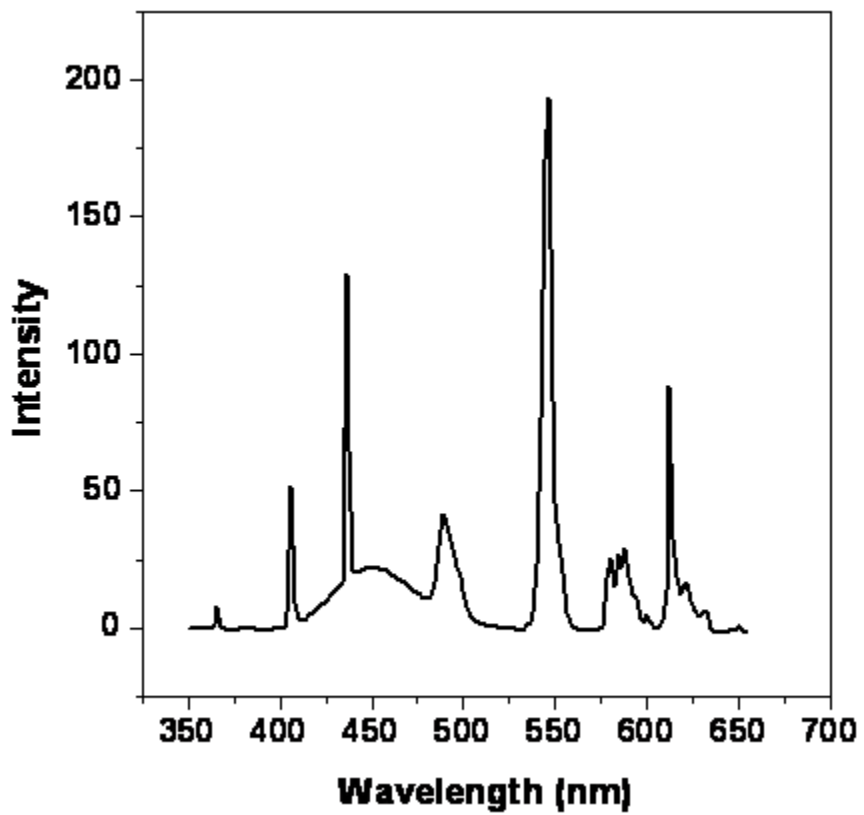


Figure S3 TEM and SAED pattern of 20CdPdS-Z. Planes marked in the SAED pattern correspond to zeolite phase.

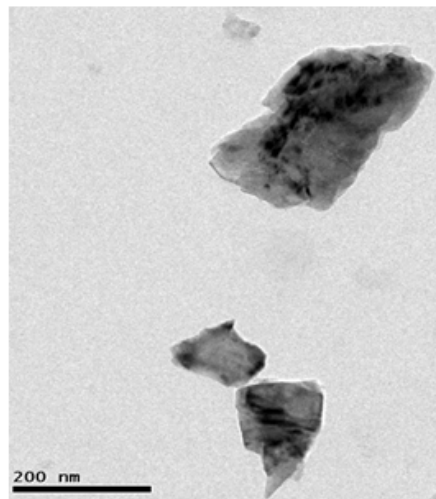
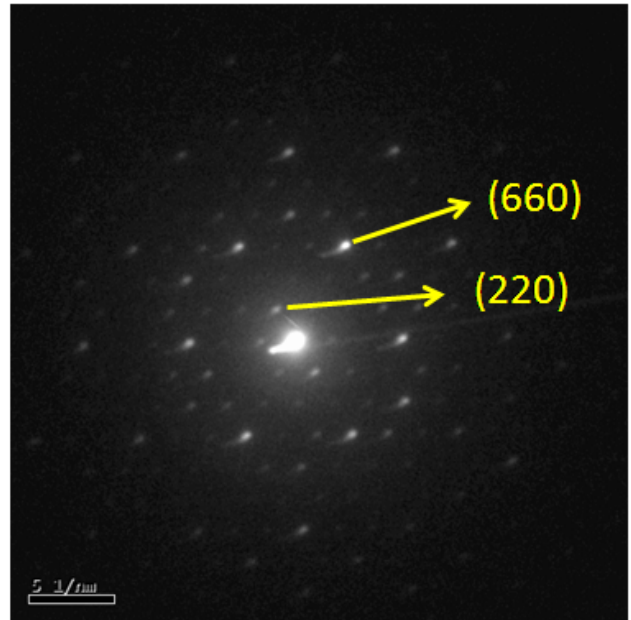
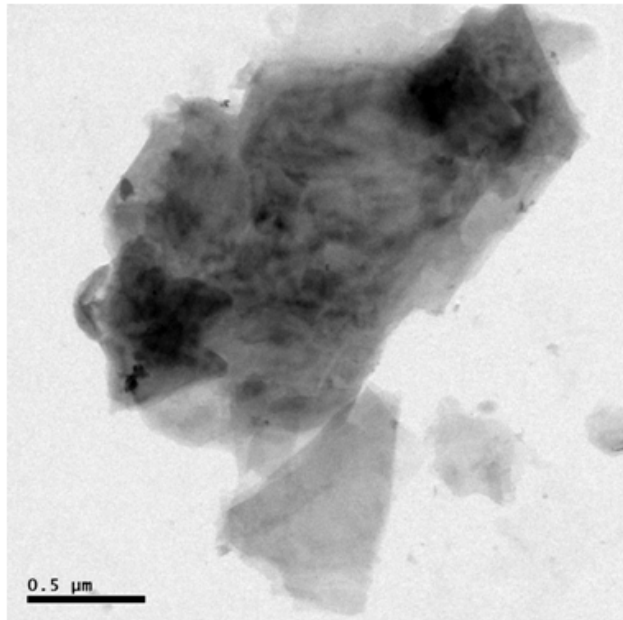


Figure S4. XRD patterns of original and irradiated (used) catalysts

